

Patent claims

1. A method for controlling power in a radio communication system having a radio interface between a first and second radio station (BS, MS), in which
- the transmissions of the second radio station (MS, BS) are received in the first radio station (BS, MS) and a transmission power correction instruction (TPC) is determined for the transmission power of the second radio station (MS, BS),
 - the transmission power correction instruction (TPC) is transmitted to the second radio station (MS, BS) during a subsequent transmission of the first radio station (BS, MS)
 - the second radio station (MS, BS) takes the transmission power correction instruction (TPC) into consideration for adjusting the transmission power during one of its subsequent transmissions,
 - the transmission power correction instruction (TPC) is referred to a variable increment (Δ TPC) of the transmission power adjustment which is adjusted by the radio stations (BS, MS) in a subscriber-dependent and time-dependent manner,
 - and a condition of the transmission between the radio stations is evaluated repetitively in time in the radio stations (BS, MS), characterized in that
 - the transmission condition is an interruption of a continuous transmission for measuring purposes,
 - and the increment of the transmission power adjustment is temporarily increased after the end of the interruption.
2. The method as claimed in claim 1, in which the measure of the increase of the increment is dependent on the length of the interruption.

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3. A method for controlling power in a radio communication system having a radio interface between a first and second radio station (BS, MS), in which
- the transmissions of the second radio station (MS, BS) are received in the first radio station (BS, MS) and a
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transmission power correction instruction (TPC) is determined for the transmission power of the second radio station (MS, BS),

- 5 - the transmission power correction instruction (TPC) is transmitted to the second radio station (MS, BS) during a subsequent transmission of the first radio station (BS, MS),
- the second radio station (MS, BS) takes the transmission power correction instruction (TPC) into consideration for adjusting the transmission power during one of its subsequent transmissions,
- a condition of the transmission between the radio stations is evaluated repetitively in time in the radio station (BS, MS),
- 15 - and the transmission condition is a speed of the first or a second radio station, characterized in that the increment is greater in a medium range of the speed than in a high range of the speed.
- 20 4. The method as claimed in claim 3, in which the increment is also greater in the medium range of the speed than in a low range of the speed.
5. A method for controlling power in a radio communication system having a radio interface between a first and second radio station (BS, MS), in which
- 25 - the transmissions of the second radio station (MS, BS) are received in the first radio station (BS, MS) and a transmission power correction instruction (TPC) is determined for the transmission power of the second radio station (MS, BS),
- 30 - the transmission power correction instruction (TPC) is transmitted to the second radio station (MS, BS) during a subsequent transmission of the first radio station (BS, MS)
- 35 - the second radio station (MS, BS) takes the transmission power correction instruction (TPC) into

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- consideration for adjusting the transmission power during one of its subsequent transmissions,
- the transmission power correction instruction (TPC) is referred to a variable increment (ΔTPC) of the transmission power adjustment which is adjusted by the radio stations (BS, MS) in a subscriber-dependent and time-dependent manner,
 - and a condition of the transmission between the radio stations is evaluated repetitively in time in the radio stations (BS, MS), characterized in that

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- the transmission condition is the number of transmitting and/or receiving antennas used for a connection,

5 - and the increment is changed in the case of a change of the number of transmitting and/or receiving antennas used for a connection.

6. The method as claimed in claim 5, characterized in that the number of the antennas used for the connection is changed by changing the number of the
10 base stations (BS) which are in radio contact with the subscriber station (MS) in the case of a macro diversity transmission method.

7. The method as claimed in claim 6, in which the increment is only increased for reducing the
15 transmission power in the case of an increase in the number of base stations which are in radio contact with the subscriber station.

8. The method as claimed in claim 6, in which the increment is only increased for increasing the
20 transmission power in the case of a reduction in the number of base stations which are in radio contact with the subscriber station.

9. The method as claimed in one of the preceding claims, characterized in that a

CDMA transmission method in broadband transmission channels is used for the radio interface.

10. The method as claimed in one of the preceding claims, characterized in that the first radio station
5 is a base station (BS) and the second radio station is a subscriber station (MS).

11. The method as claimed in one of claims 1 to 9, characterized in that the first radio station is a subscriber station (MS) and the second radio station is
10 a base station (BS).

12. The method as claimed in one of the preceding claims, characterized in that the increment (ΔTPC) to be used is signaled.

13. The method as claimed in one of claims 1 to 11,
15 characterized in that the increment (ΔTPC) to be used is determined by the transmitted transmission power correction instruction (TPC).

14. The method as claimed in one of claims 1 to 11, characterized in that the increment (ΔTPC) to be used
20 is established in accordance with a correspondence table or calculation rule linking the different transmission conditions with the increments (ΔTPC) to be used.

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